

d1
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C1
cont

motion constraint means for maintaining a parallel relationship between the payload and the base structure throughout a range of motion, the motion constraint means comprising at least two parallelogram linkages, each of the at least two parallelogram linkages comprises first and second parallelogram sub-linkages, one of the first or second parallelogram sub-linkages being fixed to the payload or a portion thereof, the other of the first or second parallelogram sub-linkages being fixed to the base structure or a portion thereof.; and

[support means being deformable along the range of motion for providing transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.]

C2

4. (Amended) The payload isolation system of claim 1, wherein the first and second parallelogram sub-linkages share a common member.

C3

5. (Twice Amended) The payload isolation system of claim 4, wherein at least two of the at least two parallelogram linkages are configured non-parallel to each other.

C4

8. (Amended) The payload isolation system of claim 1, wherein the motion constraint means further comprises at least one scissor linkage each having first and second scissor sub-linkages disposed between the payload and base structure, the first and second scissor sub-linkages being connected to each other by first and second common members, a first end of each of the first and second scissor sub-linkages being fixed to the payload or a portion thereof and a second end of the first and second scissor sub-linkages being fixed to the base structure or a portion thereof.

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C5

23. (Three Times Amended) The payload isolation system of claim 20, wherein the support adjustment means comprises:

- a deformable mat having at least one internal tubular cavity; and
- a ramp means for engaging the deformable mat to vary an amount of surface area of the deformable mat in operative contact with the payload; and
- drive means for driving the ramp means between locations to vary the amount of surface area of the deformable mat in operative contact with the payload;

wherein the feedback means controls the drive means to change the amount of surface area of the deformable mat in operative contact with the payload.

C6

27. (Twice Amended) A motion constraint mechanism comprising:

- a first parallelogram linkage disposed between a payload and a base structure;

and

- at least a second parallelogram linkage arranged relative to the first parallelogram linkage such that the first and at least second parallelogram linkages maintain a parallel relationship between the payload and the base structure throughout a range of motion;

wherein each of the first and at least second parallelogram linkages comprise first and second parallelogram sub-linkages, one of the first or second parallelogram sub-linkages being fixed to the payload or a portion thereof, the other of the first or second parallelogram sub-linkages being fixed to the base structure or a portion thereof.

C7

29. (Amended) The motion constraint mechanism of claim 27, wherein the first and second parallelogram sub-linkages share a common member.

C7
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30. (Amended) The motion constraint mechanism of claim 27, wherein the first and at least second parallelogram linkages are arranged non-parallel to each other.

d1
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31. (Amended) The motion constraint mechanism of claim 27, further comprising a scissor linkage having first and second scissor sub-linkages disposed between the payload and base structure, the first and second scissor sub-linkages being connected to each other by first and second common members, a first end of each of the first and second scissor sub-linkages being fixed to the payload or a portion thereof and a second end of the first and second scissor sub-linkages being fixed to the base structure or a portion thereof.

C8

36. (Three Time Amended) A method of constraining motion between a payload and a base structure, the method comprising the steps of:

providing a first parallelogram linkage disposed between the payload and the base structure;

providing at least a second parallelogram linkage disposed between the payload and the base structure;

fixing a first parallelogram sub-linkage from each of the first and at least second parallelogram linkages to the payload or a portion thereof and fixing a second parallelogram sub-linkage from each of the first and at least second parallelogram linkages to the base structure or a portion thereof; and

arranging the first and at least second parallelogram linkages relative to each other such that the first and at least second parallelogram linkages maintain a parallel relationship between the payload and the base structure throughout a range of motion.